Chapter 12
Applying Big Data with Fuzzy DEMATEL to Discover the Critical Factors for Employee Engagement in Developing Sustainability for the Hospitality Industry under Uncertainty

Kuo-Jui Wu  
Dalian University of Technology, China

Li Cui  
Dalian University of Technology, China

Ming-Lang Tseng  
Lunghwa University of Science and Technology, Taiwan

Jiayao Hu  
The University of Nottingham, UK

Pham Minh Huy  
Lunghwa University of Science and Technology, Taiwan

ABSTRACT
The hospitality industry is one of the fastest-growing industries in the world. The growth of this industry has been accompanied by issues of sustainability development. Employees expect firms to have the ability to address their negative impacts
on the environment and society. However, firms are generally unable to reach such expectations due to an inability to acquire feedback from employees, which leads to employee dissatisfaction. In addition, there has been a lack in the theoretical linkage between employee engagement and sustainability development. Thus, this study determines the critical factors of employee engagement based on big data (using social media and quantitative and qualitative data) and integrates such data by using decision-making tests and laboratory evaluation methods to identify these interrelationships. The findings reveal that sustainability development can be enhanced through aggressive employee engagement, which also can generate a positive influence on economic performance. A detailed discussion is also presented.

INTRODUCTION

The hospitality industry is one of the top service industries, and it provides the highest annual employment (15%) (Martínez et al., 2013). The hospitality industry generates employment and economic growth for local communities. However, to satisfy its expanding growth needs, the industry has had several negative impacts on the environment and society, including environmental degradation, unsatisfied customers, unstable and seasonal employment, and non-compliance with fundamental labor standards (Agarwal, 2002). Therefore, firms in the hospitality industry should take more responsibility with regard to social and environmental issues and minimize their negative impacts on sustainable development (Martínez et al., 2013). Social media has become an essential channel for employees to spread information about firm performance and sustainability development (Wu et al., 2016). Therefore, firms are expected to take more responsibility concerning such feedback and make the appropriate reflections to prevent negative impacts (O’Shaughnessy et al., 2007; Park & Ghauri, 2015). If firms ignore employee feedback, they may encounter problems with job satisfaction and employee engagement, which will result in lower productivity and decreased service quality (Bhattacharya et al., 2008).

In the literature, employee engagement refers to a situation in which employees feel satisfied in their work: if employees are satisfied, they will invest more effort and become more loyal to a firm (Schaufeli et al., 2002). Two triggers can lead to effective employee engagement: job satisfaction and job commitment (Schneider et al., 2005; Shuck & Wollard, 2009). These triggers occur only when employees consider their firm to be a worthwhile place to work and are proud of it (Alfalla-Luque et al., 2012). Once firms use such triggers, employees would voluntarily give greater effort and would prefer to cooperate in performing their job automatically, thus increasing the probability that the firm will attain better economic performance (Richman, 2006; Jung et al., 2010; Kuo, 2013). Similarly, the engagement of employees is a great motivation for firms to become concerned with the environment
Motivators to Adopt Green Supply Chain Initiatives
[www.igi-global.com/article/motivators-to-adopt-green-supply-chain-initiatives/129688?camid=4v1a](www.igi-global.com/article/motivators-to-adopt-green-supply-chain-initiatives/129688?camid=4v1a)

Evaluating the Use of Electronic Door Seals (E-Seals) on Shipping Containers
[www.igi-global.com/article/evaluating-use-electronic-door-seals/52082?camid=4v1a](www.igi-global.com/article/evaluating-use-electronic-door-seals/52082?camid=4v1a)